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TECH CENTER 1600 RAW SEQUENCE LISTING PATENT APPLICATION US/09/596,784

DATE: 11/01/2000 TIME: 03:02:30

INPUT SET: S36052.raw

This Raw Listing contains the General Information Section and up to the first 5 pages.

SEQUENCE LISTING 1 2 General Information: (1) 3 4 (i) APPLICANT: Bogdanove, Adam J. 5 Kim, Jihyun Francis 6 Wei, Zhong-Min 7 Beer, Steven V. 8 (ii) TITLE OF INVENTION: HYPERSENSITIVE RESPONSE ELICITOR FROM 9 ERWINIA AMYLOVORA, ITS USE, AND ENCODING GENE 10 11 12 (iii) NUMBER OF SEQUENCES: 5 13 14 (iv) CORRESPONDENCE ADDRESS: (A) ADDRESSEE: Nixon, Hargrave, Devans & Doyle LLP 15 16 (B) STREET: P.O. Box 1051, Clinton Square 17 (C) CITY: Rochester 18 (D) STATE: New York 19 (E) COUNTRY: U.S.A. 20 (F) ZIP: 14603 21 22 (v) COMPUTER READABLE FORM: 23 (A) MEDIUM TYPE: Floppy disk 24 (B) COMPUTER: IBM PC compatible (C) OPERATING SYSTEM: PC-DOS/MS-DOS 25 (D) SOFTWARE: PatentIn Release #1.0, Version #1.30 26 27 28 (vi) CURRENT APPLICATION DATA: 29 09/596,784 (A) APPLICATION NUMBER: 30 (B) FILING DATE: 31 (C) CLASSIFICATION: 32 33 (vii) PRIOR APPLICATION DATA: 34 (A) APPLICATION NUMBER: 09/120,663 35 (B) FILING DATE: 36 37 (viii) ATTORNEY/AGENT INFORMATION: 38 (A) NAME: Goldman, Michael L. 39 (B) REGISTRATION NUMBER: 30,727 40 (C) REFERENCE/DOCKET NUMBER: 19603/1661 41 42 (ix) TELECOMMUNICATION INFORMATION: 43 (A) TELEPHONE: (716) 263-1304

(B) TELEFAX: (716) 263-1600

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| 47 48 | (2) INFORMATION FOR SEQ ID NO:1: | | | | | | | |
|----------------------------|--|------|--|--|--|--|--|--|
| 49 50 51 52 53 | (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 5517 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear | | | | | | | |
| 55 56 57 58 59 | (ii) MOLECULE TYPE: DNA (genomic) | | | | | | | |
| 60 61 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1: | | | | | | | |
| 62 63 | ATGGAATTAA AATCACTGGG AACTGAACAC AAGGCGGCAG TACACACAGC GGCGCACAAC | 60 | | | | | | |
| 64 65 | CCTGTGGGGC ATGGTGTTGC CTTACAGCAG GGCAGCAGCA GCAGCAGCCC GCAAAATGCC | 120 | | | | | | |
| 66 67 | GCTGCATCAT TGGCGGCAGA AGGCAAAAAT CGTGGGAAAA TGCCGAGAAT TCACCAGCCA | 180 | | | | | | |
| 68 69 | TCTACTGCGG CTGATGGTAT CAGCGCTGCT CACCAGCAAA AGAAATCCTT CAGTCTCAGG | 240 | | | | | | |
| 70 71 | GGCTGTTTGG GGACGAAAAA ATTTTCCAGA TCGGCACCGC AGGGCCAGCC AGGTACCACC | 300 | | | | | | |
| 72 73 | CACAGCAAAG GGGCAACATT GCGCGATCTG CTGGCGCGGG ACGACGGCGA AACGCAGCAT | 360 | | | | | | |
| 74 75 | GAGGCGGCCG CGCCAGATGC GGCGCGTTTG ACCCGTTCGG GCGGCGTCAA ACGCCGCAAT | 420 | | | | | | |
| 76 77 | ATGGACGACA TGGCCGGGCG GCCAATGGTG AAAGGTGGCA GCGGCGAAGA TAAGGTACCA | 480 | | | | | | |
| 78 79 | ACGCAGCAAA AACGGCATCA GCTGAACAAT TTTGGCCAGA TGCGCCAAAC GATGTTGAGC | 540 | | | | | | |
| 80 81 | AAAATGGCTC ACCCGGCTTC AGCCAACGCC GGCGATCGCC TGCAGCATTC ACCGCCGCAC | 600 | | | | | | |
| 82 83 | ATCCCGGGTA GCCACCACGA AATCAAGGAA GAACCGGTTG GCTCCACCAG CAAGGCAACA | 660 | | | | | | |
| 84 85 | ACGGCCCACG CAGACAGAGT GGAAATCGCT CAGGAAGATG ACGACAGCGA ATTCCAGCAA | 720 | | | | | | |
| 86 87 | CTGCATCAAC AGCGGCTGGC GCGCGAACGG GAAAATCCAC CGCAGCCGCC CAAACTCGGC | 780 | | | | | | |
| 88 89 | GTTGCCACAC CGATTAGCGC CAGGTTTCAG CCCAAACTGA CTGCGGTTGC GGAAAGCGTC | 840 | | | | | | |
| 90 91 | CTTGAGGGGA CAGATACCAC GCAGTCACCC CTTAAGCCGC AATCAATGCT GAAAGGAAGT | 900 | | | | | | |
| 92 93 | GGAGCCGGGG TAACGCCGCT GGCGGTAACG CTGGATAAAG GCAAGTTGCA GCTGGCACCG | 960 | | | | | | |
| 94 95 | GATAATCCAC CCGCGCTCAA TACGTTGTTG AAGCAGACAT TGGGTAAAGA CACCCAGCAC | 1020 | | | | | | |
| 96 97 | TATCTGGCGC ACCATGCCAG CAGCGACGGT AGCCAGCATC TGCTGCTGGA CAACAAAGGC | 1080 | | | | | | |
| 98 99 | CACCTGTTTG ATATCAAAAG CACCGCCACC AGCTATAGCG TGCTGCACAA CAGCCACCCC | 1140 | | | | | | |
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| | | | | | 1. | INFUI SEI. 550052.74" | | |
|--------------------------|------------|------------|------------|-------------|--------------|-----------------------|------|--|
| 100 | | _ | | CCM2 CECCCT | CCCTCACCCT | AGACGGTAAA | 1200 | |
| 101 | | | | | CCGTCAGCGT | | | |
| 102 103 104 105 | | | | | ACAAAACAAT | | 1260 | |
| | | | | | AGCATCCTGC | | 1320 | |
| 106 107 | CGGCCGCAGG | GCGAGTCAAT | CCGCCTGCAT | GACGACAAAA | TTCATATCCT | GCATCCGGAG | 1380 | |
| 108 109 | CTGGGCGTAT | GGCAATCTGC | GGATAAAGAT | ACCCACAGCC | AGCTGTCTCG | CCAGGCAGAC | 1440 | |
| 110 111 | GGTAAGCTCT | ATGCGCTGAA | AGACAACCGT | ACCCTGCAAA | ACCTCTCCGA | TAATAAATCC | 1500 | |
| 112 113 | TCAGAAAAGC | TGGTCGATAA | AATCAAATCG | TATTCCGTTG | ATCAGCGGGG | GCAGGTGGCG | 1560 | |
| 114 115 | ATCCTGACGG | ATACTCCCGG | CCGCCATAAG | ATGAGTATTA | TGCCCTCGCT | GGATGCTTCC | 1620 | |
| 116 117 | CCGGAGAGCC | ATATTTCCCT | CAGCCTGCAT | TTTGCCGATG | CCCACCAGGG | GTTATTGCAC | 1680 | |
| 118 119 | GGGAAGTCGG | AGCTTGAGGC | ACAATCTGTC | GCGATCAGCC | ATGGGCGACT | GGTTGTGGCC | 1740 | |
| 120 121 | GATAGCGAAG | GCAAGCTGTT | TAGCGCCGCC | ATTCCGAAGC | AAGGGGATGG | AAACGAACTG | 1800 | |
| 122 123 | AAAATGAAAG | CCATGCCTCA | GCATGCGCTC | GATGAACATT | TTGGTCATGA | CCACCAGATT | 1860 | |
| 124 125 | TCTGGATTTT | TCCATGACGA | CCACGGCCAG | CTTAATGCGC | TGGTGAAAAA | TAACTTCAGG | 1920 | |
| 126 127 | CAGCAGCATG | CCTGCCCGTT | GGGTAACGAT | CATCAGTTTC | : ACCCCGGCTG | GAACCTGACT | 1980 | |
| 128 129 | GATGCGCTGG | TTATCGACAA | TCAGCTGGGG | CTGCATCATA | CCAATCCTGA | ACCGCATGAG | 2040 | |
| 130 131 | ATTCTTGATA | TGGGGCATTT | AGGCAGCCTG | GCGTTACAGG | GAGGCAAGCT | TCACTATTTT | 2100 | |
| 132 133 | GACCAGCTGA | CCAAAGGGTG | GACTGGCGCG | GAGTCAGATT | GTAAGCAGCT | GAAAAAAGGC | 2160 | |
| 134 135 | CTGGATGGAG | CAGCTTATCT | ACTGAAAGAC | GGTGAAGTGA | AACGCCTGAA | A TATTAATCAG | 2220 | |
| 136 137 | AGCACCTCCT | CTATCAAGCA | CGGAACGGAA | AACGTTTTT | CGCTGCCGC | TGTGCGCAAT | 2280 | |
| 138 139 | AAACCGGAGC | CGGGAGATGC | CCTGCAAGG | G CTGAATAAA | G ACGATAAGGO | CCAGGCCATG | 2340 | |
| 140 141 | | | | | | TCGCTCCTTC | 2400 | |
| 142 143 | | | | | | G CCGCGAAGGT | 2460 | |
| 144 145 | | | | | | A TGCCTTGACC | 2520 | |
| 146 147 | | | | | | C CGAAAGCAGC | 2580 | |
| 148 149 | | | | | | r ggacatgagc | 2640 | |
| 150 151 152 | | | | | | T GAAGGCTGGC | 2700 | |
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| | | | | | | CACCCCTTCA | 2760 |
|------------|------------|--------------|-------------|-------------|-------------|---------------|------|
| 153 | GGCTGGCACG | CCTATGCGGC | ACCTGAACGC | GGGCCGCTGG | CGGTGGGTAC | CAGCGGIICA | 2700 |
| 154 155 | CAAACCGTCT | | | | | | 2820 |
| 156 157 | TTGACGGTTA | | | | | | 2880 |
| 158 159 | AGCAGTAAAT | | | | | | 2940 |
| 160 161 | CGACCGATTA | | | | | | 3000 |
| 162 163 | AAGCCGTTGT | | | | | | 3060 |
| 164 165 | | | | | | AGGCGAACAT | 3120 |
| 166 167 | | | | | | GAGTGCAACC | 3180 |
| 168 169 | | | | | | TGAAATCAAT | 3240 |
| 170 171 | | | | | | CAATCGCTCT | 3300 |
| 172 173 | | | | | | ATCCGCAGAG | 3360 |
| 174 175 | | | | | | GAGTCATCAG | 3420 |
| 176 177 | | | | | | CACTGACCAAA | 3480 |
| 178 179 | | | | | | CGATAAGGCG | 3540 |
| 180 181 | | | | | | G CCAGCAGTTC | 3600 |
| 182 183 | | | | | | CGATATGGGC | 3660 |
| 184 185 | | | | | | TATCAATGCC | 3720 |
| 186 187 | | | | | | A ATCACAGGGC | 3780 |
| 188 189 | | | | | | G TGGTGAAAGT | 3840 |
| 190 191 | | | | | | C TACCCTTAGC | 3900 |
| 192 193 | AAGAAGGTGC | CAGTTCCGGT | GATCCCCGG | A GCCGGCATC | A CGCTGGATC | G CGCCTATAAC | 3960 |
| 194 195 | | | | | | A CGGCGGGGTG | 4020 |
| 196 197 | AGTGGTAACA | A TCATGGTCG | C TACCGGCCA | T GATGTGATG | C CCTATATGA | C CGGTAAGAAA | 4080 |
| 198 199 | ACCAGTGCAG | G GTAACGCCAC | G TGACTGGTT | G AGCGCAAAA | C ATAAAATCA | G CCCGGACTTG | 4140 |
| 200 201 | CGTATCGGC | G CTGCTGTGA | G TGGCACCCT | G CAAGGAACG | C TACAAAACA | G CCTGAAGTTT | 4200 |
| 202 203 | | | | | | G CACGTTGACC | 4260 |
| 204 205 | CCGGCAGAA | C TGTTGCAAA | A GGGGATCGA | A CATCAGATG | A AGCAGGGC | AG CAAACTGACG | 4320 |
| | | | | | | | |

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| 206 207 | TTTAGCGTCG | ATACCTCGGC | AAATCTGGAT | CTGCGTGCCG | GTATCAATCT | GAACGAAGAC | 4380 |
|------------|------------|--------------|-------------|------------|------------|------------|------|
| 208 209 | GGCAGTAAAC | CAAATGGTGT | CACTGCCCGT | GTTTCTGCCG | GGCTAAGTGC | ATCGGCAAAC | 4440 |
| 210 211 | CTGGCCGCCG | GCTCGCGTGA | ACGCAGCACC | ACCTCTGGCC | AGTTTGGCAG | CACGACTTCG | 4500 |
| 212 213 | GCCAGCAATA | ACCGCCCAAC | CTTCCTCAAC | GGGGTCGGCG | CGGGTGCTAA | CCTGACGGCT | 4560 |
| 214 215 | GCTTTAGGGG | TTGCCCATTC | ATCTACGCAT | GAAGGGAAAC | CGGTCGGGAT | CTTCCCGGCA | 4620 |
| 216 217 | TTTACCTCGA | CCAATGTTTC | GGCAGCGCTG | GCGCTGGATA | ACCGTACCTC | ACAGAGTATC | 4680 |
| 218 219 | AGCCTGGAAT | TGAAGCGCGC | GGAGCCGGTG | ACCAGCAACG | ATATCAGCGA | GTTGACCTCC | 4740 |
| 220 221 | ACGCTGGGAA | AACACTTTAA | GGATAGCGCC | ACAACGAAGA | TGCTTGCCGC | TCTCAAAGAG | 4800 |
| 222 223 | TTAGATGACG | CTAAGCCCGC | TGAACAACTG | CATATTTTAC | AGCAGCATTT | CAGTGCAAAA | 4860 |
| 224 225 | GATGTCGTCG | GTGATGAACG | CTACGAGGCG | GTGCGCAACC | TGAAAAAACT | GGTGATACGT | 4920 |
| 226 227 | CAACAGGCTG | CGGACAGCCA | CAGCATGGAA | TTAGGATCTG | CCAGTCACAG | CACGACCTAC | 4980 |
| 228 229 | AATAATCTGT | CGAGAATAAA | TAATGACGGC | ATTGTCGAGC | TGCTACACAA | ACATTTCGAT | 5040 |
| 230 231 | GCGGCATTAC | CAGCAAGCAG | TGCCAAACGT | CTTGGTGAAA | TGATGAATAA | CGATCCGGCA | 5100 |
| 232 233 | CTGAAAGATA | TTATTAAGCA | GCTGCAAAGT | ACGCCGTTCA | GCAGCGCCAG | CGTGTCGATG | 5160 |
| 234 235 | GAGCTGAAAG | ATGGTCTGCG | TGAGCAGACG | GAAAAAGCAA | TACTGGACGG | TAAGGTCGGT | 5220 |
| 236 237 | CGTGAAGAAG | TGGGAGTACT | TTTCCAGGAT | CGTAACAACT | TGCGTGTTAA | ATCGGTCAGC | 5280 |
| 238 239 | GTCAGTCAGT | CCGTCAGCAA | AAGCGAAGGC | TTCAATACCC | CAGCGCTGTT | ACTGGGGACG | 5340 |
| 240 241 | AGCAACAGCG | CTGCTATGAG | CATGGAGCGC | AACATCGGAA | CCATTAATTT | TAAATACGGC | 5400 |
| 242 243 | CAGGATCAGA | ACACCCCACG | GCGATTTACC | CTGGAGGGTG | GAATAGCTCA | GGCTAATCCG | 5460 |
| 244 245 | CAGGTCGCAT | CTGCGCTTAC | TGATTTGAAG | AAGGAAGGGC | TGGAAATGAA | GAGCTAA | 5517 |
| 246 | | ANDTON FOR S | PO ID NO.2. | | | | |

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1838 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS:

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

255 256

247 248

249

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253254

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SEQUENCE VERIFICATION REPORT PATENT APPLICATION US/09/596,784

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